

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

**In the Matter of**

**Rural Health Care  
Support Mechanism**

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**WC Docket No. 02-60**

**To: The Commission**

**REPLY COMMENTS OF  
Healthcare Anywhere, Inc.**

Washington Federal Strategies on behalf of Healthcare Anywhere, Inc., a non-profit entity formed to deliver innovative telemedicine services anywhere they are needed, hereby respectfully submits these Reply Comments in response to the *Notice of Proposed Rule Making ("NPRM")*, released by the Federal Communications Commission ("FCC" or "Commission") on April 19, 2002, in WC Docket No. 02-60. These Reply Comments provide some specific examples of telemedicine projects that show the potential opportunities for rural health care, if telecommunications support could be made available economically. The Reply Comments generally support the FCC's proposals to expand the reach of Rural Health Care Support Mechanisms.

**I. STATEMENT OF INTEREST**

Healthcare Anywhere, Inc. is a non-profit entity formed in January 2002. Its mission is

to promote telemedicine, including mobile telemedicine, by developing and managing projects that deliver healthcare services to underserved populations. The healthcare projects primarily focus on health screenings that are made more effective by real-time reporting of results to patients who otherwise might not get appropriate follow up care. As Healthcare Anywhere expands its reach, it also expects to work with rural health clinics that need new ways to reach out to their communities, to improve post-surgical follow up, to reduce the costs of care, to allow patients to receive care while at home, as appropriate. It also expects that the experience it develops in creating mobile telemedicine clinics will be applicable in the event of a bioterrorism attack. Emergency response teams could use these mobile clinics to gain access to the expertise of the nation's greatest health experts, without moving the patients.

The founders of Healthcare Anywhere created this entity to continue work that they undertook using an ad hoc consortium that included Johns Hopkins Medical Institutions, Panamsat, the Navajo Area Indian Health Service, GE Medical Systems, Walter Reed Army Medical Center, Penny Poor Consulting, and Washington Federal Strategies, among others. Healthcare Anywhere is designed to provide the structure for the next phases of a mobile digital mammography program that screens women for breast cancer using telemedicine. The next projects will likely reach out to diabetes patients, to screen immigrant communities for tuberculosis, and to collaborate on other pressing health problems. The focus includes public health programs, especially those that require high-speed telecommunications links to provide high quality radiological and diagnostic services in rural areas.

The medical community has a particular interest in the extension of satellite services operating in conjunction with broadband wired and wireless services to underserved areas. This interest stems from the realization that the future of high quality medical care – especially in rural areas - lies in using telemedicine applications to bring doctors, patients, and medical records together. Telemedicine applications have a unique need for high bandwidth because of the urgent need to transmit data intensive medical images with 100% integrity. It is for these reasons that Healthcare Anywhere is participating in this proceeding.

## **II. DISCUSSION**

### **A. Maximum Allowable Distance Criterion Should be Eliminated**

Healthcare Anywhere, and many other Commenters, has urged the Commission to eliminate the maximum allowable distance calculation as part of the rural health care support mechanism. Distance calculations can be detrimental to provision of advanced telemedicine services because they arbitrarily determine the potential telemedicine partners for a rural health clinic or mobile clinic that may be operating in remote areas. The distance calculation could preclude the development of a necessary telemedicine project because there may be no good medical center of excellence that a rural provider or mobile clinic could partner with in that area.

A story reported by the California Health Care Foundation's iHealthBeat website tells of a surgical procedure undertaken at the South Pole, supervised and guided by physicians at Massachusetts General Hospital.<sup>1</sup> The physician on station at the South Pole did not have the experience necessary to perform the complex knee surgery needed by the injured meteorologist. However, with planning and some training and active supervision, experts at Mass General helped the local physician complete the surgery within the six hour window of broadband satellite access. Because of conditions at the South Pole, it would not have been possible to get the patient to a medical facility with experts to perform the surgery until October, and by then the damage to the patient's knee would likely have been irreparable. While this example is unique in its geography, there are situations that arise daily where connection between rural areas and medical centers of excellence could greatly improve the health of patients in rural areas. With technology, distance is not relevant, and it should not be part of the analysis for awarding support for rural telemedicine projects.

### **B. Rate Comparison should be based on comparable bandwidth, not identical**

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<sup>1</sup> "First telemedicine surgery at U.S. South Pole base is a success," *iHealthBeat*, July 22, 2002, <http://www.ihealthbeat.org/members/basecontent.asp?oldcoll=&program=1&contentid=23504&collectionid=547>, citing an article from the *Baltimore Sun*.

### **types of services.**

Like many other commenters, Healthcare Anywhere believes that the functionality of a telecommunications link should be the relevant comparison to an urban area, not the identical service offering. Rural areas may be ideal for different types of service offerings than urban areas, because of geographic features and distances. If the rural health care support mechanism compares identical service offerings, there may be some services that do not get subsidized – such as satellite services – and other services that are subsidized despite being inefficient in those areas. Because of the current structure of the rural health care subsidy, some telemedicine networks are considering laying fiber optic cable across sparsely populated deserts, cables that have great capacity, but little ability for users to access those cables. Further, the conditions in the desert are hostile to fiber optic cables. A rural health care subsidy makes the fiber concept attractive, while other options such as some broadband wireless applications look less attractive but would be more practical to the circumstances. It makes more sense to compare bandwidth and functionality than exact service offerings.

### **C. Some Rural Telemedicine Applications – Broadband Services Are Needed.**

Because of its work in the field of telemedicine, Healthcare Anywhere has had the opportunity to learn about a number of telemedicine projects. Some examples of those projects are set out below. A recent report by the Journal of the American Medical Association described telemedicine adoption by medical professionals as slow and uneven. In an article on the JAMA report, iHealthBeat states:

By contrast, Medicare will cover (non-radiology) consultations, office visits, psychotherapy and pharmacological management provided via telemedicine only if the services are provided with interactive audio and video. Reimbursement for “store-and-forward” technology, which doesn’t require real-time interaction between a patient and physician, has been limited to a few demonstration projects.<sup>2</sup>

The perception that real-time interactive audio and video services are too expensive and difficult

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<sup>2</sup> “JAMA paper considers ‘slow, uneven’ adoption of telemedicine” *iHealthBeat*, July 25, 2002, <http://www.ihealthbeat.org/members/basecontent.asp?oldcoll=&program=1&contentid=23520&collectionid=547>.

to use is part of the dilemma with deployment of advanced telemedicine services in rural areas. Medicare's reimbursement decisions are based in part on what is necessary to provide high quality care, and interaction between a treating physician and a patient is important. Telecommunications links can provide that interaction. Still, only high capacity telecommunications services can help to provide effective levels of real-time interaction between physicians and patients. The technologies are available; now is a great time for the Commission to collaborate on making the technologies affordable for use.

Real-time reporting on screenings can be very important to a medically viable telemedicine project. There have been occasions in the past where telemedicine used a store-and-forward approach, sending medical information for review and consultation with reports following much later. While this approach is practical in some circumstances, it can lead to wasted opportunities in many other cases. For example, in the case of health screenings for diseases, if a screened patient does not receive the results of the screening and take appropriate follow up action, the effort made to screen can be totally wasted. Compliance with follow up recommendations is more likely if a patient gets the results from a health care professional, gets advice on what to do next and where to go for the next steps, and gets the opportunity to ask questions about his condition.

Here is one specific example: unfortunately, the population of the US is suffering from increased incidence of diabetes. More people are getting the disease, and more people are suffering from it longer. Diabetes is a disease that can lead to blindness, kidney failure, heart disease, cardiovascular disease and other debilitating conditions. However, if some of the conditions are detected early, the resulting harm can be slowed or halted. Diabetic blindness results from the disease attacking the patient's retina. If detected early, this condition is treatable, and the patient's vision can be saved. It takes a simple retina scan once a year, or every six months, to monitor a patient. However, it takes a skilled ophthalmologist to interpret the image of the retina produced by the retina camera. There are now computer programs that can aid in detecting problems to direct the risky cases to the skilled doctor. The retina scans can

be performed by advanced digital cameras that can be operated by a technician, at a site remote from the doctor. All that is needed is to bring the data-rich photographs to a center where the computer and physician can review the data carefully and report back to the remote location – where the patient is – with the results of the examination.

Rural areas, especially those with impoverished populations, are seeing a growing number of diabetes patients, in part the result of poor dietary practices. The more complications from the disease, the more the poverty will persist, since disabilities may keep some patients from working. These are not the types of areas where highly skilled doctors set up practices, as a rule. Yet, telemedicine offers the possibility of bridging the gap between needed care and access to that care. A skilled ophthalmologist working in Chapel Hill, NC could provide interpretive services for a large area of rural western North Carolina, if a mobile health clinic, equipped with a digital retina camera and satellite communications technology could capture the patient data. The patients could then be provided with reports before they left the mobile clinic, with clear instructions on what to do next, and where and how. This approach to telemedicine requires broadband telecommunications, using some form of satellite or terrestrial wireless communications links so that it is possible to bring screenings to the remote population. Satellite and wireless communications allow for mobility. For projects like this to work, the transmission speed needs to be 1.54 mbps or better, to move the medical images quickly enough for interpretation and report before the patient leaves the mobile clinic.

There is a gap between rural areas and urban areas in the quality of care that is available for breast cancer detection and treatment. A recent series of articles in the *New York Times*<sup>3</sup> that highlighted the fact that mammograms – a key tool in detecting breast cancer – are best interpreted by experts who review large volumes of breast images regularly. Mammography is a sub-specialty of radiology. There are few mammography experts working in rural areas. Thus, a woman getting a mammogram in a rural area is far more likely to have those images interpreted

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<sup>3</sup> Moss, Michael, “Mammogram Team Learns From Its Errors,” *New York Times*, June 28, 2002; Moss, Michael, “Spotting Breast Cancer: Doctors Are Weak Link,” *New York Times*, June 27, 2002.

by a general radiologist, who may or may not know what to look for in the images, than by a mammography specialist. This can lead to a great increase in the number of false interpretations. The technology exists to create digital images, send those images over a broadband telecommunications link to a center of excellence that will interpret the images and return a report back to the remote screening center before the woman has gone home. Healthcare Anywhere is working to promote deployment of both mobile and fixed remote digital mammography facilities, to increase the effectiveness of detecting and treating breast cancer. This terrible disease is treatable if detected early, but deadly if not. Since patients have little interaction with the radiologist whether in the same office or remotely, telemedicine does not change the patient/doctor interaction significantly. The rural screening facility will be staffed with radiology techs and nurses who are prepared to advise the patients on what to do next, and the reports will also be provided to the primary care physician.

The rural patient may need an immediate report more than an urban patient. First, this is because the rural patient is less likely to have a telephone, which is a useful tool in receiving results and setting up additional appointments. Also, rural women may be less likely to know as much about the implications of what the report results mean.

The University of California at San Francisco is currently operating a mobile mammography screening van, which uses digital mammography. They are seeking to reach out further into their community to prevent breast cancer deaths. The project has encountered great challenges in finding affordable telecommunications technologies that will allow it to pursue real-time transmission of the digital mammography images. Each night, the van returns to the hospital to download the images to the hospital radiology department, and returns to the field the next day. These trips to the hospital take away from the time that the van is available to screen patients.

Where money has been no object, telemedicine has taken root strongly. Rural America has not yet seen the fruits of that experience. The Mayo Clinic in Rochester, Minnesota is one of America's finest healthcare facilities. It tends to be well funded and highly regarded throughout

the world. It has set up satellite clinics in Jacksonville, Florida and Scottsdale, Arizona. The Mayo Clinic has put broadband telecommunications links in place among its three locations, and the physicians at each consult with each other regularly – sharing reviews of x-rays, MRIs, CT scans, pathology images used to diagnose diseases. All of these images are digital and easily shared by the three medical centers. Incredibly high quality of care results because the professionals are able to bring their best thinking to their work, and they have full information available to them. While it is not possible for every rural health clinic to become the Mayo Clinic, telemedicine offers the opportunity for rural clinics to link with centers of excellence and to provide better care affordably, if the technology is not perceived to be too expensive and inconvenient. Those centers of excellence may not be geographically the closest to the rural clinic, but as the example of surgery at the South Pole suggests, distance is not really the issue any longer.

At Massachusetts General Hospital, another of this country's best health care facilities, telemedicine has grown to be a regular part of the provision of care. The radiology department at Mass General provides teleradiology services for several hospitals in Saudi Arabia, for example. The remote hospitals have imaging equipment, and then the images are transmitted over broadband links to Boston, where radiologists interpret the images and report back. The costs of the project are borne by the Saudi hospitals, making it quite economical for the US hospital. If there was a way to help rural health clinics to afford the telecommunications links in this country, it seems likely that some similar arrangements could be made here, whether with Mass General, Mayo Clinic, or other centers of excellence.

#### **D. Some Telecom Providers Are Ready.**

Healthcare Anywhere has had the fortunate experience of working with Panamsat in developing telemedicine projects. That partnership has led to the knowledge that there are hospital networks linked by satellite communications that are ready and able to participate in a broader telemedicine network. Further, Panamsat has expressed its great interest in helping to advance telemedicine. Other carriers are ready for these applications as well. At least one rural

cellular carrier has expressed a willingness to engineer upgrades to its system in such a way that the network would be usable for broadband telemedicine applications. Encouragement from the Commission is likely to lead to more availability of networks for telemedicine applications.

### **III. CONCLUSION**

Healthcare Anywhere urges the FCC to modify its rules to allow for greater use of telecommunications services that are functional in rural settings. Further, it urges the FCC to alter its rules to allow rate comparison with rates in any city in a state. Finally, it hopes that the Commission will see the benefits of using satellite technology in telemedicine, mobility in telemedicine, and the applicability of this approach to responding to medical crises and amend its rules to accommodate these applications.

Accordingly, Healthcare Anywhere respectfully requests that the Commission adopt rules that further projects such as those described herein.

Respectfully submitted,

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